GEARTECH	QUALITY PROCEDURE	No. QP9202 Rev. A	SHEET 1 OF 2
Preparation and Transport of Gearboxes		BY RLE	DATE 7/05/98
		CKD JRM	DATE 7/05/98

1. Scope

1.1 This procedure covers requirements for preparing gearboxes for transport and requirements for transport.

2. Referenced Documents

2.1 GEARTECH Specifications:

CK9200	QP9200	Removing gearboxes from service
CK9201	QP9201	Storing gearboxes
CK9202	QP9202	Preparation and transport of gearboxes

3. Terminology

3.1 Contamination- Ingress into the gearbox of any liquid or solid particles foreign to the gearbox such as water, dust, or dirt.

3.2 Fretting corrosion- Deterioration of metal surfaces caused by minute vibratory motion. It occurs in gears and bearings that are not rotating and subjected to structure-borne vibration such as during transport.

3.3 Tarpaulin- Water-resistant material used to protect components from the elements.

4. Significance and Use

4.1 Application- This procedure is used to ensure gearboxes are prepared and transported in a manner that prevents contamination, and prevents corrosion or fretting corrosion on gearbox components.

5. Procedure

5.1 Removal from service- The gearbox shall be removed from service in accordance with QP9200.

5.2 Storage before preparing for transport

5.2.1 If possible, the gearbox shall be prepared for transport immediately after removal from service. If the gearbox must be stored, it shall be stored in accordance with QP9201.

5.3 Preparation for transport

5.3.1 Work restriction- No work shall be performed on the gearbox other than that required preparing for transport in accordance with this quality procedure.

5.3.2 Components removed- If possible, no components shall be removed that would expose the gearbox to contamination. Components that are likely to be damaged during transport shall be protected with shields or removed and packaged to prevent damage. If a component is removed, any ports shall be covered and sealed in a manner that prevents contamination.

5.3.3 Breather- The breather shall be removed and the port shall be plugged and sealed in a manner that prevents contamination. The breather shall be placed in a plastic bag to protect it from contamination and packaged to prevent damage.

5.3.4 Inspection port covers- All inspection port covers shall be securely fastened and sealed in a manner that prevents contamination.

5.3.5 Oil filter- The oil filter shall not be removed. If necessary, it shall be protected with shields to prevent damage.

5.3.6 Oil cooler- The oil cooler may be removed and all ports on the gearbox shall be plugged and sealed in a manner that prevents contamination.

5.3.7 Lubricant- If possible, the lubricant shall not be drained. If it must be drained, it shall be drained into a clean oil drum and stored in a dry, temperature-controlled building for subsequent laboratory analysis.

5.3.8 Labyrinth seals- Labyrinth seals accessible from the gearbox exterior shall be sealed with silicone rubber in a manner that prevents contamination.

5.3.9 Unpainted surfaces- All unpainted exterior surfaces shall be coated with rust preventative.

5.3.10 Fretting corrosion protection- To reduce the risk of fretting corrosion, all shafts shall be supported or locked from rotation such that the gear teeth contact on their backsides.

5.3.11 Checklist- As the final step in preparing for transport, the entire exterior of the gearbox shall be visually inspected to ensure there are no openings that would allow contamination. Checklist CK9202 shall be completed to ensure all steps in the preparation have been implemented.

5.4 Storage before transport

5.4.1 If possible, the gearbox shall be transported immediately after preparing for transport. If the gearbox must be stored, it shall be stored in accordance with QP9201.

5.5 Transport

5.5.1 Lubricant sample- Immediately prior to loading the gearbox on the truck, two samples of lubricant shall be taken from the gearbox using proper sampling procedures. The samples shall be stored for subsequent laboratory analysis.

5.5.2 Vibration isolation- The gearbox shall be transported in a truck equipped with air-ride suspension. As an alternate, the gearbox may be supported on vibration isolators.

5.5.3 Contamination protection- The gearbox shall be transported in an enclosed truck. As an alternate, the gearbox may be completely enclosed with a tarpaulin.

5.5.4 Transport route and schedule- If possible, the gearbox shall be transported immediately after loading is completed. The transport route shall be direct and the schedule shall be maintained to minimize time spent during transport.

5.6 Storage after transport

5.6.1 If possible, the gearbox shall be off-loaded from the truck immediately after arriving at the destination. The gearbox shall be stored in accordance with QP9201.